WHAT IS CLAIMED IS:

1. A semiconductor device comprising a dielectric layer having a methyl group and exhibiting an Si-H Fourier Transform Infrared (FTIR) doublet defined by a first and a second peak, wherein the first peak is located at a higher wave number than the second peak, and wherein the ratio of the first peak to the second peak is greater than unity.

2. The semiconductor device as claimed in claim 1, wherein a dielectric constant of the dielectric layer is less than 3.

3. A semiconductor device comprising a dielectric layer having a methyl group and exhibiting a C-H Fourier Transform Infrared (FTIR) peak, an Si-CH_3 FTIR peak, and an Si-H FTIR doublet defined by a first and a second peak, wherein the first peak is located at a higher wave number than the second peak, and wherein the ratio of the first peak to the second peak is greater than unity.

4. The semiconductor device as claimed in claim 3, wherein a dielectric constant of the dielectric layer is less than 3.

5. A method of treating a dielectric layer containing a methyl group, the

method comprising exposing the dielectric layer to a hydrogen containing plasma such that a ratio between a higher wave number peak to a lower wave number peak of a Si-H Fourier Transform Infrared (FTIR) doublet is changed from less than unity to greater than unity.

6. The method as claimed in claim 5, wherein the hydrogen containing plasma is substantially devoid of oxygen and nitrogen.

7. The method as claimed in claim 5, wherein a dielectric constant of the dielectric layer prior to exposure to the hydrogen containing plasma is greater than 4.0, and wherein the dielectric constant of the dielectric layer after exposure to the hydrogen containing plasma is less than 3.5.

8. A method of fabricating a semiconductor device, comprising:

depositing a dielectric layer over a substrate; and

treating the dielectric layer in a hydrogen containing plasma such that the dielectric layer exhibits an Si-H Fourier Transform Infrared (FTIR) doublet defined by a first and a second peak, wherein the first peak is located at a higher wave number than the second peak, and wherein the ratio of the first peak to the second peak is greater than unity.

9. The method as claimed in claim 8, wherein the hydrogen containing plasma is substantially devoid of oxygen and nitrogen.

10. The method as claimed in claim 8, wherein treating the dielectric layer in the hydrogen containing plasma reduces a dielectric constant of the dielectric layer.

11. The method as claimed in claim 8, wherein the dielectric layer is deposited so as to include a methyl group and at least one of H_2O and H-O.

12. The method as claimed in claim 11, wherein the at least one of H_2O and H-O is substantially removed by treating the dielectric layer in the hydrogen containing plasma.

13. The method as claimed in claim 8, wherein the dielectric layer is deposited so as to have a dielectric constant of greater than 4.0, and wherein treating the dielectric layer in the hydrogen containing plasma reduces the dielectric constant of the dielectric layer to less than 3.5.

14. The method as claimed in claim 8, wherein the dielectric layer as deposited over the substrate is devoid of an Si-H Fourier Transform Infrared (FTIR) doublet.

15. The method as claimed in claim 8, wherein the dielectric layer as deposited over the substrate exhibits an Si-H Fourier Transform Infrared (FTIR) doublet in which a ratio of a higher wave number peak to a lower wave number peak is less than unity.

16. The method as claimed in claim 8, wherein the dielectric layer is deposited by reacting a methylsilane with an oxygen containing material.

17. The method as claimed in claim 8, wherein the dielectric layer is deposited by reacting a methylsilane with a nitrogen containing material.

18. The method as claimed in claim 8, wherein the dielectric layer is deposited by reacting at least one of a trimethylsilane and a tetramethylsilane with an oxygen containing material.

19. The method as claimed in claim 8, wherein the dielectric layer is deposited by reacting at least one of a trimethylsilane and a tetramethylsilane with a nitrogen containing material.

20. A method of fabricating a semiconductor device, comprising:

depositing a dielectric layer over a substrate; and

treating the dielectric layer in a hydrogen containing plasma such that the dielectric layer exhibits a C-H Fourier Transform Infrared (FTIR) peak, an Si-CH3 FTIR peak, and an Si-H FTIR doublet defined by a first and a second peak, wherein the first peak is located at a higher wave number than the second peak, and wherein the ratio of the first peak to the second peak is greater than unity.

21. The method as claimed in claim 20, wherein the hydrogen containing plasma is substantially devoid of oxygen and nitrogen.

22. The method as claimed in claim 20, wherein treating the dielectric layer in the hydrogen containing plasma reduces a dielectric constant of the dielectric layer.

23. The method as claimed in claim 20, wherein is the dielectric layer is deposited so as to include a methyl group and at least one of H_2O and H-O.

24. The method as claimed in claim 23, wherein the at least one of H_2O and H-O is substantially removed by treating the dielectric layer in the hydrogen containing plasma.

25. The method as claimed in claim 20, wherein the dielectric layer is deposited so as to have a dielectric constant of greater than 4.0, and wherein treating

the dielectric layer in the hydrogen containing plasma reduces the dielectric constant of the dielectric layer to less than 3.5.

26. The method as claimed in claim 20, wherein the dielectric layer as deposited over the substrate is devoid of an Si-H Fourier Transform Infrared (FTIR) doublet.

27. The method as claimed in claim 20, wherein the dielectric layer as deposited over the substrate exhibits an Si-H Fourier Transform Infrared (FTIR) doublet in which a ratio of a higher wave number peak to a lower wave number peak is less than unity.

28. The method as claimed in claim 20, wherein the dielectric layer is deposited by reacting a methylsilane with an oxygen containing material.

29. The method as claimed in claim 20, wherein the dielectric layer is deposited by reacting a methylsilane with a nitrogen containing material.

30. The method as claimed in claim 20, wherein the dielectric layer is deposited by reacting at least one of a trimethylsilane and a tetramethylsilane with an oxygen containing material.

31. The method as claimed in claim 20, wherein the dielectric layer is deposited by reacting at least one of a trimethylsilane and a tetramethylsilane with a nitrogen containing material.